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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,516	11/17/2003	Simon Charles Watt	550-475	9818

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NIXON & VANDERHYE, PC
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ARLINGTON, VA 22203

EXAMINER

MYERS, PAUL R

ART UNIT	PAPER NUMBER
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2111

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/714,516	Applicant(s) WATT ET AL.	
	Examiner Paul R. Myers	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-4, 6-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 5 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/07, 11/17/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blanset et al PN 4,747,040 in view of Kleiman PN 5,515,538.

In regards to claims 1, 8: Blanset et al teaches A method of processing data with one or more data processing threads (UNIX applications) executing under control of a first operating system (UNIX) and one or more data processing threads (MS-Dos applications) executing under control of a second operating system (MS-Dos), said method comprising the steps of: executing a first data processing thread under control of said first operating system (UNIX); receiving a first interrupt (MS-Dos interrupt) operable to suspend execution of said first data processing thread at a first thread exit point (function of interrupts) and to trigger interrupt processing under control of said second operating system (Fig 14); executing interrupt handing code under control of said second operating system (1407); generating a return interrupt (1406); determining a return data processing thread to be executed under control of said first operating System (return location). Blanset et al does not teach executing return interrupt handling code under control of said first operating system, said return interrupt handling code being operable such that: (i) if said return data processing thread is said first data processing thread, then said first data processing thread is resumed at said first thread exit point; and (ii) if said return data processing

Art Unit: 2111

thread is a second data processing thread different from said first data processing thread, then a thread switching operation is performed under control of said first operating system to save context data associated with said first data processing thread at said first thread exit point such that said first data processing thread may later be resumed from said first thread exit point and to trigger execution of a second data processing thread under control of said first operating system. Kleiman teaches executing return interrupt handling code under control of said first operating system (Fig 9), said return interrupt handling code being operable such that: (i) if said return data processing thread is said first data processing thread, then said first data processing thread is resumed at said first thread exit point (174); and (ii) if said return data processing thread is a second data processing thread different from said first data processing thread, then a thread switching operation is performed under control of said first operating system to save context data associated with said first data processing thread at said first thread exit point such that said first data processing thread may later be resumed from said first thread exit point and to trigger execution of a second data processing thread under control of said first operating system (172). It would have been obvious to a person of ordinary skill in the art at the time of the invention select return thread in the system of Blanset as provided by Kleiman because this would have provided for to allow for kernel preemption.

In regards to claims 2, 9: Unix is a secure operating system. MS-Dos is a non-secure operating system.

In regards to claims 3, 10: Blanset teaches the return being software (return routine Column 16 lines 47-50).

In regards to claims 4, 11: Interrupts are branches.

Art Unit: 2111

In regards to claims 6-7, 14-15: Both Blanset et al and Kleiman teach a monitor mode program (the program that controls the context switching).

Allowable Subject Matter

3. Claims 5, 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claims 5, 12: The examiner could determine no reason why the interrupt return routine should be required to include the thread ID of the second operating system since that should be stored in the scheduler.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 571 272 3639. The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2111

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PAUL R. MYERS
PRIMARY EXAMINER

PRM
March 19, 2007